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STATISTICAL BULLETIN
METROPOLITAN LIFE INSURANCE COMPANY

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Watch One- and Two-Year-Olds Around the Water

NO SOONER does summer weather set in than the number of accidental drownings begins to mount daily, mainly as the result of swimming and boating misadventures. Emphasis is rightly placed, therefore, in our accident-prevention crusades at this season on these recreational hazards.

There is a curious aspect of the Nation's annual drowning record, however, which should not be lost sight of in our preoccupation with the broader phases of the problem of preventing drownings—one which parents of little children, particularly, should ponder. More 1-year-old children than persons of any other single year of age drown annually, and those aged 2 years also contribute far out of proportion to their number to the toll of drownings. Each year throughout the United States approximately 400 children 1 or 2 years old drown accidentally.

A relatively small number of these deaths of young children are reported from beaches and other resorts. This is rather surprising to anyone who has watched groups of adults absorbed in their own enjoyment at beaches, blissfully unmindful of their charges. Most of the fatalities occur in our own back yards, particularly our suburban and rural back yards. A perusal of the records relating the circumstances under which 43 children aged 1 or 2 years, insured in the Industrial Department of the Metropolitan Life Insurance Company, who were drowned in 1939, indicates that about two thirds of these deaths occurred on the home premises.

A typical tragic case illustrates the suddenness with which many of these deaths occur. A 16-months-old girl was left alone in a yard by her mother who, while working in the house, occasionally looked out of the window to see what the child was doing. This went on for about an hour, when the mother noticed that the child had disappeared. The child's body was found later in a lily pond at the side of the house. Ironically, on the ground near the pond were a roll of wire and some boards which the father had intended to use in building an outdoor play pen for the girl's safe play.

The largest number of these insured children were drowned in fish ponds. Others, like the little girl in the example cited, fell into lily ponds. Cisterns, cesspools, irrigation ditches, and small streams which cut through their back yards were the scenes of other tragic deaths. In still other instances the youngsters climbed into low open barrels, vats, or other containers of fluids.

Thirteen of the insured little children fell into water when they strayed from their own yards and were not missed until it was too late to overtake or rescue them. Because of the very nature of the accident, the child cannot cry out for help. Some wandered comparatively long distances. One 2-year-old fell into a lake which was located no less than a quarter of a mile from his home. Most of those who wandered off were drowned in near-by rivers, creeks, brooks, or other bodies of water.

Despite constant warnings from safety organizations, some mothers still take chances and leave youngsters "for a minute or two" near or in a partly filled bathtub. Several of the children in the group studied climbed into such tubs and were drowned before their mothers returned. One child, left alone in his bath for a minute while his mother was answering a telephone call, fell on his face and was drowned.

The responsibility for preventing drownings among these very young children is obviously in the lap of the parents. Children of this age must be watched constantly. They cannot be left alone safely for even a short time outside the house where there are natural or artificial ponds, nor inside the home near tubs or pans partly filled with water.

Military Losses as Measured by Peacetime Standards

THE frightful losses of life, even in the military forces alone, during the present war, are utterly beyond comprehension, because most of us are without adequate standards by which to measure these losses. For example, there is considerable skepticism as to the "low" figures—slightly more than 10,000 in each case—of the deaths in action of German soldiers in the few short weeks of the Polish and Belgian phases alone of the present war, as reported from Berlin. Yet among the males in the age group 20 to 29, from which the army is largely recruited, 20,000 deaths was the normal toll for a whole year in Germany, as that country was constituted prior to 1938.

Casualties in the present war are as yet practically unknown, and it may be many years before they are known with any degree of accuracy. We must go back to the last great war to get some comparative measure of the magnitude of these tragic losses of life. Even for the last war the figures are largely estimates, and these are reasonably accurate for

only a few countries. In that war the death losses of men in military service, both from wounds in action and from disease, reached the frightful figure of 17.4 percent for the French army. The German rate was little different from that of the French forces. England's losses, covering troops from the whole empire, approximated 10 percent of her total forces. The lower level of British losses is probably explained by the fact that by the time the British forces attained their maximum strength, the period of stalemate in the last war had been reached. For our own forces the figure was about 3 percent for the total army. But if we consider only those who saw action, it is probably about 5 percent, which is extraordinarily high in view of the short period of our active participation, even if allowance is made for the fact that this period included the worst of the influenza pandemic, from which all armies suffered heavily.

Another measure of the extent of war casualties is a comparison, such as is contained in a summary of German mortality during the war, which is based on the deaths of persons in military service in relation to the total mortality of the country. For 1914, even though the war had started late in the year, deaths of soldiers constituted 18.7 percent of all deaths, but in 1915 the figure rose abruptly to 29.9 percent. The lowest figure recorded for an entire war year was 21.0 percent in 1917. For the war period as a whole, out of every four deaths (including those of females) one was of a man in military service, although all deaths of males between ages 18 and 50 were less than one tenth of the total in Germany before 1914.

When we limit our comparison to men in the age periods who bear the brunt of fighting, the picture is grim indeed. In Germany, for example, during the period of the last World War as a whole, the death rate for men between ages 20 and 24 was practically 12 times that in the same age period in 1913, the year prior to the opening of hostilities. In other words, the average number of deaths in that age period in each of the war years was roughly equivalent to the deaths in 12 normal years. In 1915, when mortality in this age group was at its peak, the death rate was more than 15 times that of 1913. In other words, at the prewar rate, deaths of these young men in the single year 1915 were about equal in number to the deaths occurring in this age group from the beginning of the century up to the opening of hostilities in 1914.

At ages 25 to 29 the German figures show a rate nearly eight times the normal for the period of the war as a whole, with a maximum figure of 10 times the normal recorded in 1915. In the next five-year age group the figure was approximately five times the normal, and at ages 35 to 39 three times the normal. In the age group 15 to 19 the figure was about four times the normal, but if figures were available for ages 18 and 19 it is likely that they would approach those for men

in their 20's. Indeed, it is significant that, as the war continued, the proportion of relatively young and relatively old men in the service grew, and with that there was a corresponding increase in the mortality in these age groups. For example, the death rate at ages 15 to 19 rose in 1914 to slightly more than twice the prewar level, in 1915 to 3⅓ times, and in 1918 to seven times the prewar normal. At ages 35 to 50, likewise, the maximum ratios of mortality to prewar normals were recorded in 1918.

The data on French losses are not available in the usual age classifications as are the German data, but according to the year in which the men were called up for their original term of compulsory military training. Taking into account only natives of France, the total losses were 16 percent of the number mobilized, but among those who were between 19 and 25 years of age at the beginning of the war, the figure was consistently higher than 20 percent and reached a maximum of 29.2 percent in the 1914 class.

Assuming that all the army classes of France from 1914 back to 1894 were in service for the whole duration of the war, and that the younger classes of 1915–1918 had very brief periods of training, the ratio of mortality to the prewar level was, for most classes, five times the normal or more, ranging as high as 10 to 13 times the prewar standard. The highest ratios were recorded in the younger classes. The enormity of these losses may be the better appreciated if one realizes that the class of 1914 in the French army represents roughly a cohort of men of age 20 who by the end of the war would have passed age 24; and that the number of these men surviving at the end of the war—that is, about to age 24—was down to a figure comparable to the number who should have survived to age 53 under prewar mortality conditions in France. Deaths which in normal times would have been spread over 33 years were thus concentrated into a period of a little more than four years.

The death rate of the American army, as a whole, in 1918 was about 20 per 1,000, as against a prewar average of less than five. Our battle losses alone during the war, despite the relatively short participation of our troops on a large scale, were approximately equal to the annual number of deaths among males at ages 20 to 29 in the whole country in the prewar years.

These great war losses were naturally concentrated in the periods of active fighting. For example, a majority of the American military casualties occurred in just three major engagements. French losses were greatest at the beginning of the war, with a total of 329,000, including prisoners,* in August and September of 1914. Other periods of activity showed losses averaging 30,000 to 70,000 per month, whereas

*The records give only an aggregate figure for deaths and prisoners, but the latter constituted a minor part of the total.

in quiet periods they fell as low as 5,000 per month, in the early part of 1918. As against nearly 500,000 losses, including prisoners, in the four war months of 1914, and nearly 250,000 in the first half of 1915, there were only 68,000 in the last half of 1917. German deaths also were heaviest in 1914 and 1915; in all of 1917, on the other hand, the deaths were little more than in the four opening months of the war.

The implications of these data are many and vital. Europe's actual losses and unseen losses, in reduced births after the war, were so large that the male population under age 45 in England and France was no larger, and in Germany little larger at the beginning of the present war than at the beginning of the last war. The present war will bring these numbers even lower, and, as we have pointed out in an earlier issue of the STATISTICAL BULLETIN, the concentration of these losses at those very ages at which men establish families, is an ill augur for the future of Europe's population. The figures give impressive testimony also of the high casualties for ill-prepared armies, and point cogently to the need for thorough training and adequate equipment of our own military forces for the intense mechanized warfare which has developed before our eyes.

The Control of Disease in Childhood

MORTALITY in the childhood ages today is practically one fift'. of that prevailing three decades ago, according to the experience of white children insured in the Industrial Department of the Metropolitan Life Insurance Company. In 1939 there were only 1.3 deaths per 1,000 insured white children in the ages from 1 to 14 years*; in 1911, the earliest year for which a comparable figure is available, the corresponding rate was 6.4 per 1,000. This substantial improvement, which is unequaled by the showing in any other age period of life, is the combined effect of a number of important gains that have been achieved over the various diseases characteristic of childhood. In reviewing these changes it will be convenient to refer to the figure on page 7, which shows the course of the death rates† for specific causes of death among the insured white children of ages 1 to 14 years during the period from 1911 through 1939. The division of the chart into four panels was made merely to separate death-rate curves which otherwise would intertwine inconveniently. It has no other significance.

For almost all of the period under survey influenza and pneumonia ranked first in the list of causes of death, despite the generally downward course of the death rate. The tendency toward improvement which is noticeable from 1911, when the death rate stood at 100 per

*Mortality in infancy (under 1 year of age) is excluded from the present article since it has already been separately discussed in the STATISTICAL BULLETIN of July 1939.

†The death rates for ages 1 to 14 years in this article have been standardized on the basis of the standard million of England and Wales, 1901.

100,000, was interrupted by the pandemic of 1918, which brought the rate to a peak of 345 per 100,000. The ensuing years saw many marked fluctuations in the death rate, superimposed, however, upon a strongly downward trend. In fact, the death rates in 1938 and 1939, which were 27.5 and 20.6 respectively, fell below those for total accidents, thereby bringing influenza and pneumonia from first to second in the list of causes of death.

Each of the four principal communicable diseases of childhood—diphtheria, measles, scarlet fever, and whooping cough—registered a sharp decline in mortality during the years from 1911 to 1939. The death rate for diphtheria, which was second in the list at 88.2 per 100,000 white children ages 1 to 14 in 1911, fell to a point of only four per 100,000 in 1939. This achievement reflects the practical results of the campaign against diphtheria. In the same year, 1939, the death rates for measles, scarlet fever, and whooping cough were alike at two per 100,000—far below the corresponding figures in 1911—namely, 35.9, 41.2, and 20.3.

Diarrhea and enteritis, third in our list in 1911 with a death rate of 64.7 per 100,000, had a rate of only 4.2 per 100,000 in 1939. Despite this phenomenal improvement in the death rate, the condition still is a relatively important factor in mortality in early childhood as well as infancy. Tuberculosis among children has followed a persistent downward trend during the period under survey; the death rate dropped from 45.2 per 100,000 in 1911 to 5.5 in 1939.

Compared with the causes of death so far considered, the decline in the death rate from organic diseases of the heart* among children has been relatively small. Even so, the death rate in 1939—namely, 6.1 per 100,000—was less than one third that in 1911. In the case of acute rheumatic fever, the most recent death rate was also one third that in 1911, while for nephritis (acute and chronic) the reduction was to one quarter the early level.

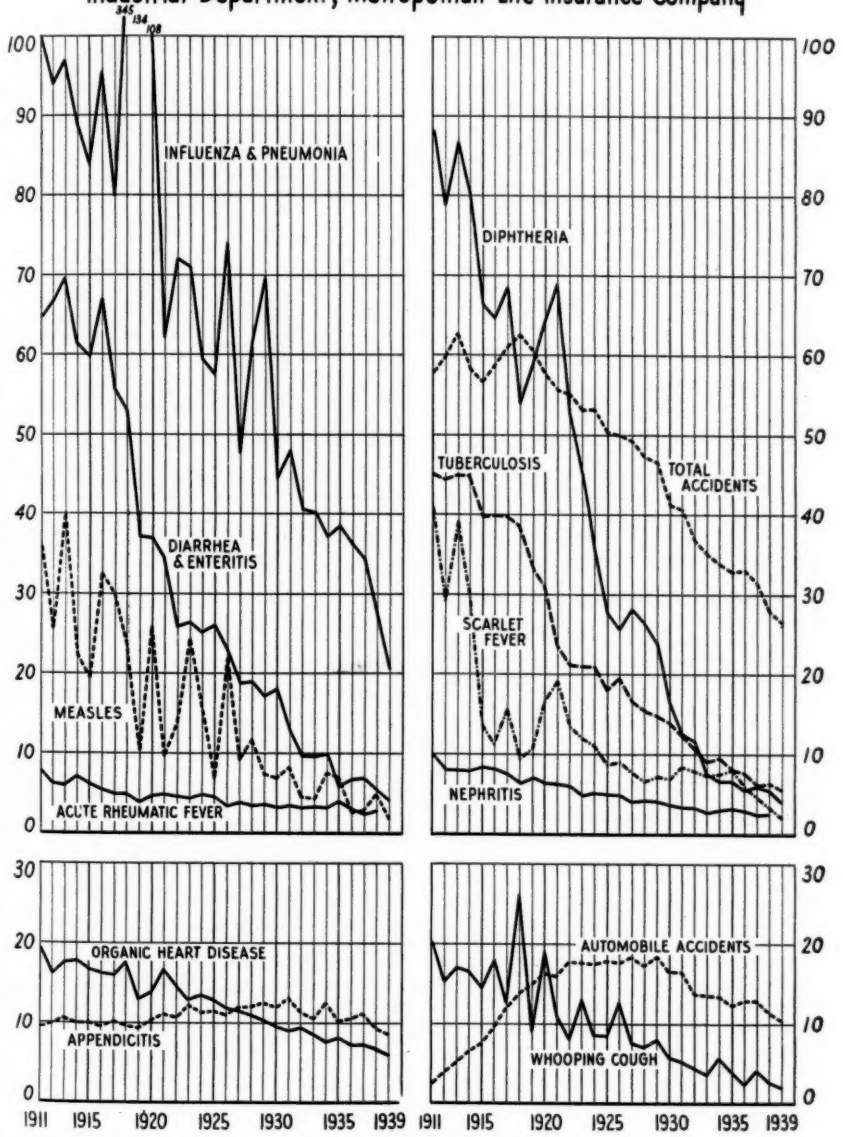
In marked contrast to the very favorable trends described so far, mortality from appendicitis and typhlitis has remained practically unchanged at a level of about 10 per 100,000. As a result, it has moved from 11th in our list of causes of death at ages 1 to 14, in 1911, to third in 1939.

Although there has been a steady decline in the death rate from total accidents since 1911, mortality from automobile accidents among children has mounted rapidly for many years. Thus, in the case of total accidents the death rate in 1939—namely, 26.4 per 100,000—was somewhat less than half the rate in 1911; the decline was practically continuous from 1918 forward. The story regarding automobile accident fatalities, however, is much different. Starting from a low point of 2.5 per

*Excluding pericarditis, acute endocarditis, acute myocarditis, coronary artery diseases, and angina pectoris.

CHILDHOOD MORTALITY, BY CAUSE, FROM 1911 TO 1939

Death Rates per 100,000 White Persons, Ages 1 to 14 Years*
Industrial Department, Metropolitan Life Insurance Company



* Standardized for age on the basis of the Standard Million of England and Wales, 1901.

100,000 in 1911, there was a rapid rise to a maximum of 18.3 in 1929 and then a decline to 10.3 in 1939. As a cause of death in childhood, automobile accidents, apart from all other accidents, rank second only to influenza and pneumonia.

The childhood ages have been particularly fortunate in the success of the efforts of medicine and public health to control the acute and infectious diseases. Intensification of these efforts will undoubtedly bring childhood mortality to new low levels. There has also been notable progress in controlling fatal accidents in childhood, but the rewards here have not been as great as in the acute and infectious diseases. The current importance of accidents as a cause of death in childhood entitles the campaigns for education in safety to special attention.

Our World's Fairs Exhibits

THE Metropolitan Life Insurance Company cordially invites readers of the STATISTICAL BULLETIN to attend its exhibits in the Business Systems and Insurance Building, New York World's Fair, and in the Hall of Science, Golden Gate International Exposition, San Francisco, Calif.

Attention is also drawn to the Medical and Demographic Exhibits in the Hall of Man, New York World's Fair, sponsored by a group of organizations, including this Company.

Health Record for May 1940

THE exceedingly good health conditions that prevailed among the many millions of Industrial policyholders of the Metropolitan Life Insurance Company throughout the decade which closed with 1939, have continued during the first five months of 1940. In fact, there is good prospect that the year will once more set a record for low mortality among this large group of wage-earners and their dependents. At any rate, their year-to-date mortality rate at the end of May (8.24 per 1,000) was slightly lower than the previous minimum for any January–May period—namely, 8.28, in 1938.

The month of May itself, with a death rate of 7.5 per 1,000, set a new low mark for that particular month. The closest approach to this figure

was 7.8, recorded in May 1938. These are the only instances in the history of this large cross-section of the American and Canadian populations in which the death rate in the month of May has dropped below eight per 1,000. In fact, the May death rate this year was more than 10 percent below the average for that month during the last 10 years.

A number of diseases have shown exceptionally low mortality for the five-month period. Ten of the 12 causes of death for which new low death rates were registered last year are showing still lower mortalities so far in 1940. These 10 are measles, scarlet fever, whooping cough, diphtheria, pneumonia, tuberculosis, diarrheal diseases, appendicitis, puerperal conditions, and accidents —all forms combined. The rate for one other cause of death—homicide —is well below that ever previously recorded for the first five months of any previous year.

Among all these favorable developments of 1940 to date we might select two as the outstanding high lights of the year: first, a prospective drop in the diphtheria death rate to less than one per 100,000 for the first time in history; second, a decline of 25 percent in a single year in the mortality rate for pneumonia.

Of paramount interest, also, are the further and substantial decreases, so far this year, in deaths from diarrheal diseases and from conditions arising out of pregnancy and childbirth. There is no better index of the extent to which community and household sanitation and standards of infant feeding have improved in recent years, than is afforded by the decline in deaths from diarrhea and enteritis. Only 10 years ago the death rate from these conditions among Metropolitan Industrial policyholders was more than 20 per 100,000. By 1939 this figure had been reduced to 3.7, and this year a still further reduction is in prospect.

The mortality rate from diseases of the maternal state has registered a practically continuous decline among insured women over a period of two decades, and there has been a further drop this year. Seven years ago we stated in the STATISTICAL BULLETIN that nearly two thirds of the deaths chargeable to these diseases could be prevented if expectant mothers received the type of care made available by certain agencies which had concentrated on the care of pregnant women. As the years have passed, more and more women have received such care and, to an increasing extent, women in the industrial population have benefited by better medical supervision and by better nursing and delivery service both in hospitals and their homes. There is every evidence that there will be a still further decline in the hazards of pregnancy and childbirth, with a further drop in the maternal death rate.

The unfavorable developments are considerable increases in the mortality from four diseases—namely, cancer, diabetes, diseases of the coronary arteries, and chronic nephritis.

Morbidity reports from the major

cities also show favorable health conditions in the general population in May. There was less sickness from diphtheria, influenza, and smallpox than in either April of the current year or in May a year ago. Small increases in the incidence of measles, poliomyelitis, typhoid fever, and whooping cough were reported during May as compared with the preceding month, but in the case of all four of these diseases there were fewer cases than in May of last year. Scarlet fever was the only important communicable disease which showed increased prevalence as compared with May 1939.

Among the items of special health interest recently reported are: The International Health Division of the Rockefeller Foundation and the California State Department of Health have made grants to support an epidemiologic and statistical study of syphilis in the San Joaquin local health district unit. This study will last from three to five years and will include an analysis of the prevalence of syphilis and of the efficacy of control and treatment methods. North Carolina was recently allotted $200,000 by the Reynolds Foundation to continue its campaign against syphilis. The Tennessee State Department of Public Health recently announced that all high school students, numbering about 100,000, will be given the tuberculin test. Positive reactors will be X-rayed and those having active tuberculosis will be hospitalized.

A special health committee, to be known officially as the Division of Public Health, was recently created by the Florida Federation of Women's Clubs. The purpose of this committee will be to lend greater emphasis to public health work among the women's clubs of Florida. The Jefferson Medical College, in Philadelphia, has received a generous legacy for research on tuberculosis and cancer. A photo record was recently installed by the Oregon State Board of Health for use in duplicating infallibly birth and death certificates, to save space in filing, and to assure permanence of records and exactness in copies.

The following table shows the mortality among Industrial policyholders for May 1940, April 1940, and May 1939, together with the death rates for the first five months of each year.

METROPOLITAN LIFE INSURANCE COMPANY

Death Rates per 100,000 Policyholders from Selected Causes. Industrial Department. Weekly Premium-Paying Business*

Causes of Death	Annual Rate per 100,000 Policyholders*				
	May 1940	April 1940	May 1939	Year to Date: End of May 1940	Year to Date: End of May 1939
All Causes—Total	754.6	805.0	805.9	824.1	848.4
Typhoid fever	.4	.4	.5	.5	.4
Measles	.8	.5	.6	.5	.9
Scarlet fever	.6	1.1	.8	.8	1.1
Whooping cough	1.0	1.3	1.7	1.3	2.0
Diphtheria	.1	.9	.8	1.0	1.3
Influenza	5.9	9.7	11.5	13.0	17.3
Pneumonia (all forms)	35.0	47.9	44.6	50.7	67.9
Tuberculosis (all forms)	46.5	49.8	47.2	46.8	47.6
Tuberculosis of respiratory system	41.7	44.7	42.1	42.5	42.7
Syphilis	11.8	11.9	11.6†	12.3	11.7†
Cancer (all forms)	97.8	98.6	96.5	102.3	100.7
Diabetes mellitus	28.8	32.1	30.5	32.3	29.7
Cerebral hemorrhage	61.3	63.8	60.6	65.2	64.6
Diseases of the coronary arteries	48.2	51.1	42.4	51.4	43.1
Angina pectoris	3.3	3.7	6.9	3.5	7.3
Diseases of the heart (other forms)‡	157.9	170.2	175.9	175.0	179.0
Diarrhea and enteritis	4.1	3.2	3.8	3.7	4.5
Appendicitis	8.4	8.8	10.3	8.9	9.8
Chronic nephritis	57.3	60.7	53.0	61.8	56.3
Puerperal state—total	3.3	4.2	6.6	4.5	5.8
Suicides	9.4	7.8	8.7	8.3	8.4
Homicides	3.3	3.0	4.1	3.1	4.3
Accidents—total	38.3	39.3	44.4	42.1	43.3
Home accidents	9.3	11.8	12.5	13.1	13.5
Motor vehicle accidents	14.3	13.7	15.4	15.1	16.6
Automobile accidents§	13.2	12.8	14.7	14.0	15.7
All other causes of death	130.9	135.1	142.8	135.2	141.4

*The rates for 1940 are subject to slight correction, since they are based on provisional estimates of lives exposed to risk.

†Excludes aneurysm of the aorta.

‡Excludes pericarditis, acute endocarditis, and acute myocarditis.

§Excludes collisions between automobiles and railroad trains or streetcars.

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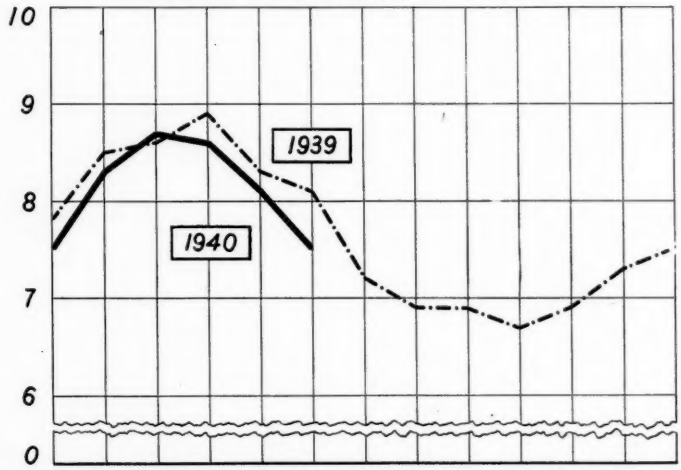
MORTALITY FROM ALL CAUSES

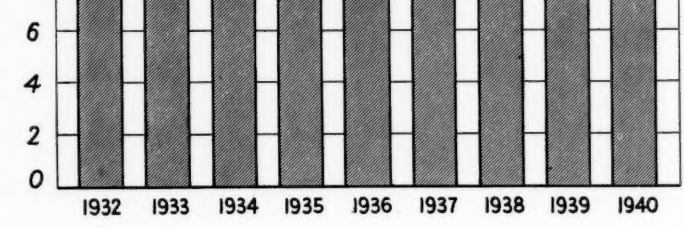
METROPOLITAN LIFE INSURANCE COMPANY
DEATH RATES PER 1,000 POLICYHOLDERS - ANNUAL BASIS
INDUSTRIAL DEPARTMENT · WEEKLY PREMIUM-PAYING BUSINESS

DEATH RATES BY MONTHS: 1939 AND 1940



(DEC)	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1939	8.5	8.6	8.9	8.3	8.1	7.2	6.9	6.9	6.7	6.9	7.3	7.5
1940	8.3	8.7	8.6	8.1	7.5							

DEATH RATES FOR JANUARY TO MAY, 1932-1940



Rates for 1940 are provisional.

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